Results: Successful reperfusion was achieved with tailored thrombolytic therapy in all patients. Only one patient had reinfarction on the 3rd day, for which she received another half-dose Tenectaplase. She remained asymptomatic subsequently. 2 patients had IV site ecchymosis; no patient had major bleeding. All the patients had one month follow-up and were asymptomatic.
Conclusion: Tailored thrombolytic therapy in very elderly patients, many of whom also have high bleeding risk factors, is effective as well as safe. With the increasing lifespan, the number of very elderly patients with STEMI is going to increase in the future, posing a challenge of bleeding risk vs benefit with reperfusion strategies; tailored thrombolytic therapy would have greater relevance in the future and needs to be studied in larger number of patients.

Exploring the potential of sulfasalazine in coronary artery disease patients

S. Varmaa, H. Kalra, P. Krishan, K. Vohra

Sadbhavna Medical and Heart Institute, Punjabi University, Patiala, India
Dept. of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India

Background: Inflammation has been widely acknowledged to contribute throughout all stages of atherogenesis. At present none of the anti-cytokine therapy has a specific place in standard therapeutic regimen for management of CAD. The project aims at controlling the low grade systemic inflammation in CAD using Sulfasalazine to improve overall disease outcome.
Methods: 50 eligible subjects (M/F=43/7) meeting the inclusion/exclusion criteria for CAD and low grade systemic inflammation, were randomly assigned to once daily drug (n=25, mean age=57.33±1.52 years) or placebo (n=25, mean age=58.58+2.16 years) tablets (500 mg) for six months along with the previously continued treatment regimen in all subjects. Assessment was carried out at baseline, 12 week and subsequently after 24 weeks of treatment. Various measures like, (a) hsCRP (b) Endothelial-dependent Flow Mediated dilatation (FMD) of the brachial artery, (c) Carotid artery IMT and artery stiffness index (Young' elastic Modulus), d) Hb, TLC, DLC, SGOT & SGPT, and creatinine were evaluated. Student's t-test ($p<0.05$) was used.
Results: hsCRP declined to (1.12±0.07 vs. 2.40±0.20mg/l, $p<0.01$), SBP (118.20±3.11 vs. -128.95±4.19 mmHg, $p=0.04$), carotid IMT (0.68±0.02 vs. 0.79±0.01 mm ($p<0.01$) and carotid stiffness to 9.73 ±0.91 vs. 15.87±3.11 mmHg.mm ($p=0.06$) from baseline in drug group as compared to placebo group, respectively. FMD improved to 18.31±1.52 vs. 11.72±1.36% in drug group as compared to placebo group, ($p=0.02$), whereas endothelium-independent vasodilation with nitroglycerin (17.76±0.1.27 vs. 17.91± 1.41%; $p=0.94$) remained unchanged in both the groups. Moreover, safety markers were with-in the normal range in both the groups ($p>0.05$).
Conclusions: Thus, it is concluded that Sulfasalazine may act as novel adjuvant therapeutic approach along with other standard therapies for the management of CAD due to its effectiveness in improving the endothelial dysfunction, reducing inflammation and carotid stiffness.

Association of serum fibrinogen with severity of acute coronary syndrome

M. Jagadesh, K. Ranjan Shetty, M.P. Prabhu

Kasturba Medical College, Manipal, India

Background: Cardiovascular disease is the leading cause of death worldwide and a majority of these deaths are attributable to Myocardial infarction. Due paramountcy was given to evaluate the correlation between the acute phase reactants and the severity of acute coronary syndrome. One marker which was under great a deliberation for long was fibrinogen. Albeit thorough research, the association was debated till recently when many of the western studies showed a correlation. None of the studies were done on Indian population.
Objective: To study the correlation between serum fibrinogen level (SFL) and severity of ACS.
Methods: This is a prospective study on hospitalized patients with ACS. ACS was diagnosed based on clinical presentation, ECG and cardiac biomarkers. Blood for fibrinogen was drawn at admission and was measured by chemiluminescence technique. Coronary angiography was performed through the femoral artery access and the angiograms were evaluated by interventional cardiologists who will be blinded to the study. The severity of ACS was assessed by Gensini score. Data analysis and interpretation was done with SPSS 20. The statistical significance of association was assessed by chi square test and p value of less than 0.05 was considered significant.
Results: We serially analysed 91 patients presenting with ACS from February 2014 to April 2014. 29 patients were excluded as per pre-specified criteria. SFL was plotted against Gensini score in the remaining 62 patients. Pearson's correlation coefficient between SFL and Gensini score was r=0.869. We have found a significant correlation between SFL and Gensini score with a significant p value (<0.05).
Conclusion: Statistically significant correlation exists between SFL and Gensini score. Higher SFL were associated with higher Gensini score. We hence conclude to say that serum fibrinogen can be used to assess the severity of ACS.

Molecular testing in Families with Familial Hypercholesterolemia in India

N. Setia, J.P.S. Sawhney, R. Saxena, R.D. Puri, A. Arora, I.C. Verma

Center of Medical Genetics, and Department of Cardiology, Sir Ganga Ram Hospital, New Delhi, India

Background: India has a large number of deaths occurring due to premature CAD, resulting from major risk factors like deranged lipids. Familial Hypercholesterolemia (FH) is characterized by isolated high levels of total and LDL cholesterol. It is an autosomal dominant trait and is highly under recognized entity which if diagnosed and treated early can prevent deaths due to CAD.
Methods: We enrolled 85 subjects suspected of FH: high total and LDL cholesterols (>95thcentile), family history of hypercholesterolemia and premature CAD. Molecular analysis was carried out in three candidate genes: LDLR, fragment of exon 26 and 29 of ApoB

100 and PCSK9. Cascade screening was carried out in families with confirmed mutations. Sanger sequencing was used for screening point mutations and small insertions and deletions. For large rearrangements dosage analysis was performed by MLPA technique.
Results: Disease causing mutations were found in 32 families, while analysis is still in progress for rest of the cases. All mutations have been found in the LDLR gene. Five cases were homozygous for the LDLR mutation. One mutation, c.1587-1 G>A in intron 10 was found in four families which may represent a founder mutation in Indians. Three mutations; p.S177L in exon 4, c.2416_2417 insG; p. V806Gfs*11 in exon 17 and p. L654P in exon 16 were found in two families each. On cascade screening, 63 out of 120 (52%) family members were found to harbor the family specific mutation.
Conclusion: All FH confirmed cases were referred to the lipid/ cardiology clinics for lifestyle modifications and therapeutic interventions. In cases with high cholesterols, genetic analysis confirms the disorder and that all the first degree relatives are at 50% risk of developing premature CAD. The diagnosis based on genetic studies is more sensitive and accurate than lipid analysis alone for diagnosis of FH. Cascade screening was useful in diagnosing family members with FH who were unaware of their disorder.

Clinical and Non- Invasive predictors of the presence and extent of coronary artery disease

R. Kumar, P.C. Negi, R. Bhardwaj, A. Kandoria, S. Asotra, N. Ganju, R. Marwah

Indira Gandhi Medical College, Shimla, India

Background: The costs of caring for patients with coronary artery disease (CAD) are enormous. The high rates of finding normal coronaries at invasive angiography in individuals with suspected CAD clearly indicates the need for devising tools to correctly identify the patients with high probability of having obstructive CAD especially severe disease. The following study was done to identify the clinical and non invasive predictors of the presence and extent of coronary artery disease.
Methods: The study was carried at a tertiary care hospital at Shimla, Himachal Pradesh in the department of Cardiology over a period of 1 year. All consecutive patients undergoing conventional coronary angiography for suspected CAD were enrolled after obtaining informed written consent.
Results: 335 individuals underwent angiography for suspected CAD over a 1 year period. The mean age of the study population was 55.47±9.44 years and 68.6% were males. 80.2% of subjects had undergoing treadmill test in the 1 month preceding coronary angiography. 25% had a carotid Doppler evaluation prior to coronary angiography. 48.9% had evidence of coronary artery disease, 37.8% had single vessel disease, 30.4% had double vessel disease, and 31.8% had three vessel disease. Left main coronary artery disease was present in 5.4%. In multivariate analysis, typical angina was the only independent predictor of the presence of coronary artery disease. Framingham risk score was an independent predictor of multivessel disease and Duke Treadmill Score was an independent predictor of disease extent and severity.
Conclusions: 51.2% of subjects undergoing coronary angiography for suspected CAD had normal coronaries. Typical angina was the only independent predictor of coronary artery disease on angiography. Framingham risk score and duke treadmill score were independent predictors of disease severity.

Characteristics, treatment and 30 day outcomes of ST elevation myocardial infarction in a sub-urban Indian tertiary care centre

A. Vamsidhar, D. Rajasekhar, V. Vanaja, D. Sarath Babu, M. Boochi Babu

Sri Venkateswara Institute of Medical Sciences, Tirupati, India

Background: STEMI is a major cause of death in India. Data on STEMI is scarce in the Indian population. This study determined the characteristics, treatment and outcomes of STEMI in an Indian sub-urban tertiary care Centre.
Methods: We carried out a prospective observational study of 709 consecutive STEMI patients hospitalized between January 2013 and December 2013 in Sri Venkateswara institute of medical sciences, Tirupati. Patient characteristics, angiographic features, complications and 30-day outcomes were determined.
Results: The mean age of patients was 54.02±11.57 years. Males were 570(80.39%). Diabetes and hypertension were present in 223(31.45%) and 267(37.66%) respectively. 352(49.65%) were smokers while 196 (27.64%) were alcoholics. 53(7.47%) had past coronary artery disease (CAD) history and 8 (1.13%) had family history of CAD. Only 166 (23.41%) used ambulance to come to hospital while 50.9% used private vehicles and 3.94% used two wheelers. 68(9.59%) patients had renal dysfunction. Mean ejection fraction was 45.23±8.84%. AWMI, IWMI and PWMI were present in 61.55%, 38.10% and 0.35% respectively. Single vessel disease, double vessel disease and triple vessel disease was present in 66.1%, 26.1% and 7.7 % respectively. Infarct related artery was LAD, LCX and RCA in 287 (65.23%), 37 (8.41%) and 116 (26.36%). GpIIb/ IIIa inhibitors were used in 227(32.01%). Angioplasty was done in 508(71.65%) while 329 (64.76%) had DES and 179 (35.24%) had BMS. Average stent length and stent diameter were 20.04±7.57 mm and 2.97±0.52 mm respectively. 115(27.1%) had thrombolytic therapy, 284(40.05%) patients underwent primary angioplasty and 399 (32.85%) presented out of window period. Overall CABG rate was 12.2%. 30 day mortality was 4.93% including 1.41% in primary angioplasty group and 6 had reinfarction.
Conclusions: STEMI patients tend to be younger than in developed countries. Few patients utilized ambulance while most used private transport. Coronary angiography and primary angioplasty are being increasingly performed. Mortality was comparable to developed countries. Increased use of evidence based therapy, compared to CREATE registry. Mortality can be further decreased by the use of emergency transport services, public awareness and increased performance of primary angioplasty.

Intensive dose of rosuvastatin (40 mg/day), initiated early and continued for 12 weeks, in 'very high' risk or 'high' risk Indian patients

C.P. Shah, B.P. Shah, N.C. Krishnamani, A. Mehta, P. Moorthy, G.P. Ratnaparkhi, S. Dani, S.S. Lakshmanan, M.S.S. Mukharjee, K.M.K. Reddy, B.B. Chanana, S. Suryawanshi, J. Karankumar